

**REMARKS**

Claims 6-10, 12-15, 17, 19 and 25-32 are in case and presented for reconsideration. Claims 1, 25, 26 and 29 are independent claims. No claim amendments have been submitted. Favorable reconsideration of this application in view of the foregoing remarks to follow is respectfully requested.

According to outstanding Office Action, the March 11, 2008 Election Requirement has been WITHDRAWN and Claims 10, 12, 14-15, and 26-32 are now back in the case based upon Applicant's May 8, 2008 response. The Office Action Summary describes dependent Claims 16, 18, and 20 - 24 as withdrawn despite the fact that those dependent claims were canceled by Applicants on January 9, 2008 in response to the December 4, 2006 non-final Office Action. Yet more confusing is the fact that both obviousness rejections in the outstanding Office Action list dependent Claims 16, 18, and 20 - 24 as **rejected** (See pages 3 and 6). Hence, Applicants will not address the rejections of dependent Claims 16, 18, and 20 -24, as those claims are canceled.

**§103 (a) Rejection as to Claims 6, 13, 15, 19 and 25:**

Claims 6, 13, 15, 19 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 6,366,817 issued to Kung in view of Ben-Haim et al. (WO 96/05768) (hereinafter "Ben-Haim"). In response to the rejections to Claims 6, 13, 15, 19 and 25, Applicants make the following comments.

Claim 6 recites an apparatus for use in an invasive medical procedure, comprising, *inter alia*, a **passive energy transfer amplifier**, which is adapted to be placed in proximity to the

position sensor so as to enhance inductive driving of the power circuit of the wireless position sensor by the RF electromagnetic field. Claim 25 recites a similar apparatus.

In contrast, Kung discloses an electromagnetic field source (EFS) for providing electromagnetic energy to a secondary coil as shown in FIG. 2, reference character No. 230 (see Col. 9 lines 30-40, Col. 10, lines 6-22). Applicants submit that Kung's secondary coil is merely a coil for receiving electromagnetic energy from one or more primary coils and does not suggest or teach amplifying the magnitude of the received electromagnetic energy and therefore does not enhance inductive driving of the power circuit of the wireless position sensor by the RF electromagnetic field. Hence, Kung's secondary coil 230 is not an energy transfer amplifier, as recited in independent Claims 6 and 25.

For example, Kung's specification describes secondary coil 230 as being "... activated when located on any region 640 due to [the] orthogonal intersection with the vertically-oriented magnetic fields generated by primary coils" (Col. 10, lines 11-15). "Activated" is defined as "sufficient to induce an operative current in secondary coil 230" (Col. 10, lines 15-18). In other words, if Kung's secondary coil is not in an "orthogonal intersection with the vertically-oriented magnetic fields" its primary coil does not induce a current to flow in the secondary coil (Col. 9, lines 36-40). Hence, the Office Action erroneously characterizes Kung's secondary coil as an "amplifier" yet Kung's secondary coil does not amplify but instead is directly reliant on the orientation of its primary coil to induce a current flow in its secondary coil. Moreover, the Office Action further mischaracterizes Kung's secondary coil as a energy transfer amplifier which "enhance[s] inductive driving of the power circuit" by relying on the fact that Kung's secondary coil can somehow be employed in a current detector circuit in another embodiment (Col. 21, lines 2-17). Applicants submit that Kung's disclosure at Col. 21, lines 2-17 (or

elsewhere in Kung's specification) lacks any support for the Office Action's erroneous characterization of Kung's secondary coil as an **energy transfer amplifier** which **enhances inductive driving of the power circuit of the wireless position sensor by the RF electromagnetic field** as recited in Claims 6 and 25.

With respect to Ben-Haim, that reference discloses a locating system for determining the location and orientation of an invasive medical instrument, whereby an externally-applied RF field induces a current in three coils located within the invasive medical instrument (Page 15, lines 2-23). Nowhere in Ben-Haim's specification is an energy transfer amplifier disclosed. Accordingly, Ben-Haim fails to suggest or teach an **energy transfer amplifier**, as recited in both independent Claims 6 and 25.

Accordingly, the hypothetical combination of Kung and Ben-Haim fails to suggest or teach an **energy transfer amplifier** as recited in both independent Claims 6 and 25.

Therefore, Applicants respectfully request withdrawal of this ground of rejection.

**§103 (a) Rejection as to Claims 7-10, 12, 14, 17 and 26-32:**

Claims 7-10, 12, 14, 17, and 26-32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 6,366,817 issued to Kung in view of Ben-Haim, as applied above, in view of U.S. 6,206,835 issued Spillman, Jr. et al., (U.S. 6,206,835) (hereinafter "Spillman") issued Kuhn et al. (U.S. 6,206,835) (hereinafter "Kuhn") and in view of U.S. 7,001,346 issued to White and U.S. 5,755,748 issued to Borza. In responding to this rejection, Applicants are assuming the Office Action's rejection containing a reference to Kuhn et al. (U.S. 6,206,835) is actually referring to U.S. 6,216,026 issued to Kuhn et al. In response to the rejections to

dependent Claims 7-10, 12, 14, and 17, Applicants submit that Spillman, Kuhn, White and Borza do not overcome the deficiencies of Kung and Ben-Haim described above. Hence, dependent Claims 7-10, 12, 14, and 17 are allowable based on the above arguments, as well as for their own additional features.

Similarly, with respect to the rejection to independent Claims 26 and 29, Applicants submit, as mentioned above that Kung and Ben-Haim fail to suggest or teach an orthopedic implant or invasive medical apparatus, comprising, *inter alia*, a **passive energy transfer amplifier . . . to enhance inductive driving of the power circuit of the wireless position sensors by the RF electromagnetic field** as recited in Claims 26 and 29.

Moreover, Spillman, Kuhn, White and Borza do not overcome the deficiencies of Kung and Ben-Haim described above with respect to Claims 26 and 29. For example, Spillman discloses an implant device that includes an integral, electrically-passive sensing circuit, communicating with an external interrogation circuit where the sensing circuit includes an inductive element and has a frequency-dependent variable impedance loading effect on the interrogation circuit, varying in relation to the sensed parameter (Col. 2, lines 13-28). In particular, as seen in Spillman's FIG. 3, an amplifier 72 is directly coupled to resistor 56 and is employed for signal conditioning the **voltage developed across resistor 56** not to **enhance inductive driving of the power circuit of the wireless position sensor by the RF electromagnetic field** (Col. 6, lines 21-28). Hence, Spillman fails to suggest or teach an **energy transfer amplifier** as recited in independent Claims 6, 25-26 and 29.

With regard to Kuhn, the reference discloses a method of navigating a magnetic object within an object that is exposed to a magnetic field (Coil 2, lines 51-65). Nowhere in Kuhn's

specification is an energy transfer amplifier disclosed. Accordingly, Kuhn fails to suggest or teach an **energy transfer amplifier** as recited in both independent Claims 6, 25-26 and 29.

With regard to White, the reference discloses an apparatus for making intraoperative orthopedic measurements (Col. 5, lines 17-19). As shown in White's FIG. 2, two electromagnetic receivers 16 and 18 are placed in a patient to aid in aligning a femur 44 and a pelvis 40 (Col. 6, lines 41-46). Nowhere in White's specification is an energy transfer amplifier disclosed. Accordingly, White fails to suggest or teach an **energy transfer amplifier** as recited in both independent Claims 6, 25-26 and 29.

With regard to Borza, the reference discloses a transcutaneous energy transfer device which asserts that varying the spacing between coils in the device results in energy transfer efficiency changes (Col. 2, lines 15-27). Nowhere in Borza's specification is an energy transfer amplifier disclosed. Accordingly, Borza fails to suggest or teach an **energy transfer amplifier** as recited in both independent Claims 6, 25-26 and 29.

Accordingly, the hypothetical combination of Kung, Ben-Haim, Spillman, Kuhn, White and Borza fails to suggest or teach an **energy transfer amplifier** as recited in both independent Claims 6, 25-26 and 29.

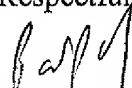
Therefore, Applicants respectfully request withdrawal of this ground of rejection.

### **CONCLUSION**

Early and favorable consideration of the present application, as amended herein, is respectfully requested. If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Applicants' undersigned attorney at the number indicated below.

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Respectfully submitted,



Paul J. Esatto, Jr.

Registration No. 30,749

SCULLY, SCOTT, MURPHY & PRESSER, P.C.  
400 Garden City Plaza - Suite 300  
Garden City, New York 11530  
(516) 742-4343  
PJE:DJD:tam